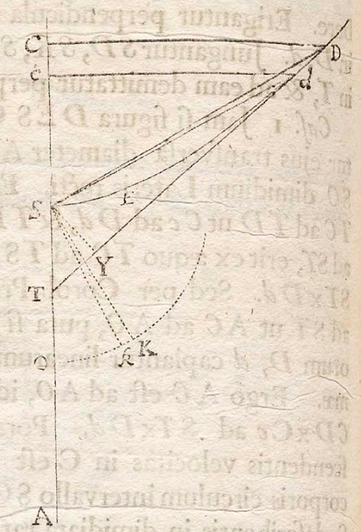
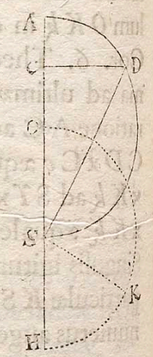
tis velocitas in C æqualis eſt velocitati qua circulus intervallo $\frac{1}{2}SC$ uniformiter deſcribi poſſit. (per Theor. X.) Et hæc velocitas ad velocitatem qua circulus radio SK deſcribi poſſit, hoc eſt, lineola Cc ad arcum Kk eſt in dimidiata ratione SK ad $\frac{1}{2}Sc$, id eſt, in ratione SK ad $\frac{1}{2}CD$, per Corol. 6. Theorem. IV. Quare eſt $\frac{1}{2}SK \times Kk$ æquale $\frac{1}{4}CD \times Cc$, adeoq; æquale $\frac{1}{2}SY \times Dd$, hoc eſt, area KSk æqualis Areæ SDd, ut ſupra. *Quod erat demonſtrandum.*



Prop. XXXVI. Prob. XXV.

Corporis de loco dato A cadentis determinare tempora deſcenſus.

Super diametro AS (diſtantia corporis a centro ſub initio) deſcribe ſemicirculum ADS, ut & huic æqualem ſemicirculum OKH circa centrum S. De corporis loco quovis C erige ordinatim applicatam CD. Junge SD, & areæ ASD æqualem conſtitue Sectionem OSK. Patet per Theor. XI, quod corpus cadendo deſcribet ſpatium AC eodem tempore quo corpus aliud uniformiter circa centrum S gyrando, deſcribere poteſt arcum OK. *Quod erat faciendum.*

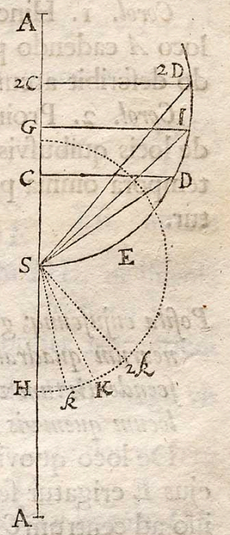


Prop. XXXVII. Prob. XXVI.

Corporis de loco dato ſurſum vel deorſum projecti deſinire tempora aſcenſus vel deſcenſus.

Ex-

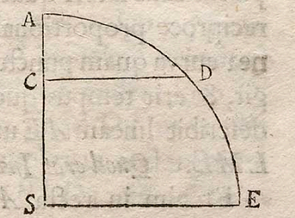
Exeat corpus de loco dato G ſecundum lineam ASG cum velocitate quacunq;. In duplicata ratione hujus velocitatis ad uniformem in circulo velocitatem, qua corpus ad intervallum datum SG circa centrum S revolvi poſſet, cape CA ad $\frac{1}{2}AS$. Si ratio illa eſt numeri binarii ad unitatem, punctum A cadet ad infinitam diſtantiam, quo in caſu Parabola uertice S, axe SC, latere quovis recto deſcribenda eſt. Patet hoc per Theorema X. Sin ratio illa minor vel major eſt quam 2 ad 1, priore caſu Circulus, poſteriore Hyperbola rectangula ſuper diametro SA deſcribi debet. Patet per Theorema IX. Tum centro S, intervallo æquante dimidium lateris recti, deſcribatur circulus HKk, & ad corporis aſcendentis vel deſcendentis loca duo quævis G, C, erigantur perpendicula GI, CD occurrentia Conicæ Sectioni vel circulo in I ac D. Dein junctis SI, SD, fiant ſegmentis $SEIS$, $SEDS$ Sectores HSK, HSk æquales, & per Theorema XI. corpus G deſcribet ſpatium GC eodem tempore quo corpus K deſcribere poteſt arcum Kk. Q. E. F.



Prop. XXXVIII. Theor. XII.

Poſito quod vis centripeta proportionalis ſit altitudini ſeu diſtantiæ locorum a centro, dico quod cadentium tempora, velocitates & ſpatia deſcripta ſunt arcubus arcuumq; ſinibus verſis & ſinibus rectis reſpective proportionales.

Cadat corpus de loco quovis A ſecundum rectam AS; & centro virium S, intervallo AS, deſcribatur circuli quadrans AE, ſitq; CD ſinus rectus arcus cujuſ-



vis

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